



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,959	06/07/2005	Shigeru Tanaka	81844.0036	1391
26/021 7590 01/15/2009 HOGAN & HARTSON L.L.P. 1999 AVENUE OF THE STARS SUITE 1400 LOS ANGELES, CA 90067			EXAMINER LSTVOYB, GREGORY	
			ART UNIT	PAPER NUMBER
			1796	
			MAIL DATE	DELIVERY MODE
			01/15/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/537,959

Applicant(s)

TANAKA ET AL.

Examiner

GREGORY LISTVOYB

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 and 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-850)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 7/5/2005 and 6/7/2005

DETAILED ACTION

Election/Restrictions

Claims 1-11 and 16-21 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected surface treated polyimide resin, laminate and method for manufacturing printed wiring board there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/11/2008.

Applicant's election without traverse of Claims 12-15 in the reply filed on 11/11/2008 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 12-15 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for aromatic, does not reasonably provide enablement for any other type of polymer resins. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Factors to be considered in determining whether a disclosure meets the enablement requirement of 35 USC 112, first paragraph, have been

described by the court in *In re Wands*, 8 USPQ 2d 1400 (CA FC 1988).

Wands states at page 1404, the court set forth eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApl's 1986) at 547 the court recited eight factors:

(1) The nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount of direction or guidance presented; (7) the presence or absence of working example and (8) the quantity of experimentation necessary.

The nature of the invention and breadth of claims

The claimed invention is a resin film with specific roughness characteristics. This parameter is enabled only for aromatic polyimides (see line 0016 of Spec). Therefore, the scope of the Claims ("A resin film", meaning any polymeric film) is much broader than one disclosed in the Specification.

The state of the prior art

In the prior art to US 2001/0013425 as discussed below, discloses a polyimide film with specific roughness. Therefore, US 2001/0013425 reference represents only a limited teaching of a laminate, based on polyimide film with specific roughness.

The amount of direction or guidance presented:

The Applicant does not provide any teaching regarding other polymers. In Examiner's position, this teaching would be necessary, considering that different polymers have wide variety of adhesiveness values. In order to achieve good adhesiveness, roughness values expected to be different for the polymers of different structure.

The presence or absence of working example:

The Applicant presents working Examples based on only aromatic polyimides (see Examples 1-9). There is no working Examples, related to any other polymers.

The quantity of experimentation necessary.

2. It is concluded that it would have require undue experimentation for one having ordinary skill in the art to practice the claimed invention to find

appropriate step to expand the applicant's teaching to any other type of polymers, besides one based on polyimide. In re Wands, 858, F.2d at 737, 8 USPQ 2d 1400, 1404 (Fed Cir. 1988)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno et al (US 4806422).

Ohno teaches a thermal transfer film comprising a base film and polyimide stick-preventing film having roughness within the range of 0.03-0.15 μm , preferably 0.04-0.08 μm at 80 μm cut off (see Column 3, line 25).

Regarding claim 13, Ohno teaches that one of the possible materials for the above film is polyimide (see column 5, line 50).

In reference to claim 14, Ohno teaches the above composition on a glass surface, which can be considered a laminate (see Column 2, line 45).

Note that cut-off value claimed (0.002 mm, which equal to 2 μm) is different from one of Ohno (80 μm). The position is taken that cut-off value is related to the measurement standard procedure used. For instance, Ohno uses Standard Procedure JIS B-0601 (see Column 10, line 15), whereas Applicant uses New View 5030 System with filter low waven 0.002 mm (see line 0205 and line 0210 of the Application).

In addition, Ohno teaches that film thickness of the stick-preventing film is within the range of 2-12 μm (see Column 4, line 5). Therefore, cut-off values within 0.002 mm, since this value is comparable with film thickness.

Ohno does not teach Ra1/Ra2 ratio of 0.4 to 1.

According to applicant, the Ra2 value indicates irregularity with wavelengths of 100 μm or less.

Ohno teaches that film thickness of the stick-preventing film is within the range of 2-12 μm . Therefore, R2 value is expected to be within the claimed values.

Claim 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno et al (US 4806422) in view of Kitel et al (US 6461722).

Ohno teaches a thermal transfer film comprising a base film and polyimide stick-preventing film having roughness within the range of 0.03-0.15 μm , preferably 0.04-0.08 μm at 80 μm cut off (see Column 3, line 25).

Ohno does not teach a laminate, comprising resin film and a metal.

Kitel teaches a thermal transfer laminate, comprising both polymeric and metal layers (see Abstract).

Therefore, the above composition is art-recognized one for intended purposes.

The selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945), 325 U.S. at 335, 65 USPQ at 301, see also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960), *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988) and MPEP 2144.07.

Therefore, it would have been obvious to a person of ordinary skills in the art to use Ohno's composition as a part of resin/metal laminate in thermal transfer compositions, since the laminate has art recognized suitability for intended purposes.

Claims 12-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Rokugawa et al (US 2001/0013425).

Rokugawa teaches a metal/polyimide film laminate having a surface shape formed on at least one of the surfaces, the surface shape having a Ra1 value of

arithmetic mean roughness of 0.1 μm or smaller, whereas metal (copper) surface has an average surface roughness of 0.1 μm or smaller (see lines 0078 and 0106).

Rokugawa does not teach that laminate roughness created by the special treatment (etching) of the resin film. Instead, he teaches that the metal surface undergoes the above treatment. The position is taken that polyimide film repeats the roughness of the adjacent metal surface in the process of laminate producing. Therefore, the final properties of the laminate are equivalent regardless whether the roughness is created with metal or film surface.

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See Also *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974), *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

Regarding the limitation of measured with a cutoff value of 0.002 mm, and a Ra1/Ra2 ratio of 0.4 to 1, Ra2 being a value measured with a cutoff value of 0.1 mm, the position

is taken that Rokugawa teaches thin films (microns). Cut off values claimed are comparable with thickness of the film. Therefore, this limitation is achieved in Rokugawa's laminate with great expectation of success.

Claims 12, 14-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Shibuya et al (US 2002/0054991).

Shibuya teaches a polymeric film having a surface shape formed on at least one of the surfaces, the surface shape having a Ra1 value of arithmetic mean roughness of 0.3-1.5 μm (see line 0039).

Regarding the limitation of measured with a cutoff value of 0.002 mm, and a Ra1/Ra2 ratio of 0.4 to 1, Ra2 being a value measured with a cutoff value of 0.1 mm, the position is taken that Shibuya teaches thin films (microns).

Cut off values claimed are comparable with thickness of the film. Therefore, this limitation is achieved in Shibuya's laminate with great expectation of success.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY LISTVOYB whose telephone number is (571)272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rabon Sergent/
Primary Examiner, Art Unit 1796

GL

